REMARKS

Claim status

Claims 1-2, 4-8, and 11-29 were pending in the case at the time of the current Office Action. Claims 1-2, 4, 11, 13, and 22 are currently amended herein. Claims 1-2, 4-8, and 11-29 are currently pending in the application.

Personal Interview

Applicants thank the Examiner and his Supervisor for the personal interview conducted on March 9, 2006. The amended claims herein are in accord with the agreement reached with the Examiner during the interview with respect to the claims. A copy of the Interview Summary is attached hereto.

Specification

In the specification, paragraph [0054] has been amended herein simply to clarify the terms "streaming" and the phrase "the ability to cache streaming content" as understood in the art and as used in the specification. No new matter has been added. Applicants respectfully request that the specification amendments be entered.

Section 103 rejections

In the current Office action, claims 1-2, 11-12 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Major, US 6,542,967, in view of Burns et al, US 6,324,182.

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

Independent claim 1 recites a method to cache and redistribute streaming digital data content in real time to a plurality of requesting client machines, said method comprising:

receiving a first content request, for a streaming content, from a requesting client machine, wherein said requesting client machine does not send information identifying a secondary server containing said streaming content corresponding to said first content request;

generating a second content request based on the first content request;

transmitting the second content request to at least one secondary server known to contain said streaming content;

receiving said streaming content from said at least one secondary server in response to said second content request, and simultaneously dynamically caching the received streaming content locally;

intelligently re-streaming the real-time streaming content to the requesting client machine as said real-time streaming content is being dynamically cached; and

intelligently re-streaming, at a later time from the local cache, the streaming content to a same or different requesting client machine in response to a subsequent content request.

Independent claim 11 recites a system usable to cache and redistribute streaming digital data content in real time to a plurality of requesting client machines, said system comprising a proxy server able to receive a first content request for a streaming content from a requesting client machine, wherein said requesting client machine does not send information identifying a secondary server containing said streaming content corresponding to said first content request, and said proxy server able to generate and transmit a second content request to at least one secondary server known to contain said streaming content, and said proxy server able to receive the streaming content from said at least one secondary server in response to said second content request and simultaneously dynamically cache the received streaming content locally and intelligently re-stream the real-time streaming content to the requesting client machine as said real-time streaming content is being dynamically cached, and intelligently re-stream, at a later time from the local cache, the streaming content to a same or different requesting client machine in response to a subsequent content request.

Independent claim 22 recites a system to cache and redistribute streaming digital data content in real time to a plurality of requesting client machines, said system comprising:

means for receiving a first content request, for a streaming content, from a requesting client machine, wherein said requesting client machine does not send information identifying a secondary server containing said streaming content corresponding to said first content request;

means for generating a second content request based on said first content request and transmitting said second content request to at least one secondary server known to contain said streaming content;

means for receiving said streaming content in response to the second content request from said at least one secondary server <u>and simultaneously dynamically caching the received streaming content locally;</u>

<u>means for intelligently re-streaming the real-time streaming content to the requesting client machine as said real-time streaming content is being dynamically cached; and</u>

<u>means for intelligently re-streaming, at a later time from the local cache, the streaming content to a same or different requesting client machine in response to a subsequent content request.</u>

It is respectfully submitted that neither Major (US 6,542,967), hereinafter Major, nor Burns (U.S. 6,324,182), hereinafter Burns, nor the combination thereof teach or suggest the claimed invention of claims 1, 11, and 22. In particular, neither Major, Burns, nor the combination thereof teach or suggest the receiving and simultaneous local dynamic caching of a streaming content, and the intelligent re-streaming of the real-time streaming content to a requesting client machine as the real-time streaming content is being locally cached, and then intelligently re-streaming, at a later time from the local cache, the streaming content to a same or different requesting client machine in response to a subsequent content request. In fact, Major is not concerned with intelligent real-time streaming at all and is, instead, directed to static data content such as web pages and files. The Examiner seemed to agree with this in the personal interview.

Intelligent streaming is a technique, known in the art, for transferring data such that is can be processed as a steady and continuous stream of data. Streaming technologies are becoming more important with the growth of the Internet because many users do not have fast enough access to download large multi-media files quickly. With intelligent streaming, the client can start displaying the data before the entire file has been transmitted. For intelligent streaming to work, the client side receiving the data must be able to collect the data and send it as a steady stream to the application that is processing the data and converting it to sound and/or pictures.

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Again, Major is not concerned at all with the handling or caching of streaming content. The techniques used for the intelligent streaming and caching of streaming data content are very different from the techniques that are used for transmitting and caching static content such as single images, documents, and web pages. For example, a hint track may be provided for streaming content. The hint track tells a server exactly how to package the content to be streamed over a network. Each media stream should have its own hint track. The advantage of hint tracks is given by the fact that any server which understands hint tracks is able to serve any streaming content with hint tracks. When streaming content is dynamically cached, the hint track data is stripped off. In order to intelligently re-stream a streaming content to, for example, a requesting client, the hint track information must be rebuilt and applied to the streaming content before re-streaming. Dynamic caching of streaming content, in accordance with the claimed invention, allows bandwidth consumption to me minimized across expensive wide area network links or more saturated internal backbones. This may translate to a significant cost advantage over conventional delivery systems across a network infrastructure. Therefore, a system and method that are used to handle static content do not anticipate or render obvious a system and method that are used to handle streaming content.

Burns describes a version of "store and forward". Burns monitors usage and then decides what content to pre-populate on his edge servers. Burns describes a predictive algorithm to pre-populate content based on past usage. Burns does not teach or suggest a method of caching streaming content as it is being viewed by a user (i.e., a requesting client machine) as in the claimed invention. Again, the Examiner seemed to agree with this in the personal interview.

Therefore, in view of at least the foregoing, it is respectfully submitted that claims 1, 11, and 22 are neither anticipated nor rendered obvious, and it is respectfully submitted that claims 1, 11, and 22 define allowable subject matter. Also, since claims 2, 12, and 23-24 depend either directly or indirectly from claims 1, 11, or 22, it is respectfully submitted that claims 2, 12, and 23-24 define allowable subject matter as well. Applicants respectfully request that the rejections of claims 1-2, 11-12, and 22-24 under 35 U.S.C. 103(a) be removed.

In the current Office action, claims 4-5, 13-15 and 25-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Major and Burns as applied to claims 1-2, 11-12, and 22-24 above, and further in view of Doyle, US 6,678,793, hereinafter, Doyle.

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

As described above, neither Major, Burns, nor the combination thereof teach of suggest the claimed invention of independent claims 1, 11, and 22. Furthermore, the combination of Major, Burns, and Doyle do not teach or suggest the claimed invention of independent claims 11, 11, and 22. In fact, Doyle is not concerned at all with streaming content.

Therefore, in view of at least the foregoing, it is respectfully submitted that claims 1, 11, and 22 are neither anticipated nor rendered obvious, and it is respectfully submitted that claims 1, 11, and 22 define allowable subject matter. Also, since claims 4-5, 13-15, and 25-26 depend either directly or indirectly from claims 1, 11, or 22, it is respectfully submitted that claims 4-5, 13-15, and 25-26 define allowable subject matter as well. Applicants respectfully request that the rejections of claims 4-5, 13-15, and 25-26 under 35 U.S.C. 103(a) be removed.

In the current Office action, claims 8, 16-21 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Major and Burns as applied to claims 1-2, 11-12, and 22-23 above, and further in view of Shannon, US 6,233,618, hereinafter, Shannon.

Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

As described above, neither Major, Burns, nor the combination thereof teach of suggest the claimed invention of independent claims 1, 11, and 22. Furthermore, the combination of Major, Burns, and Shannon do not teach or suggest the claimed invention of independent claims 11, 11, and 22. Shannon is directed to, instead, providing access control and restricting client requests.

Therefore, in view of at least the foregoing, it is respectfully submitted that claims 1, 11, and 22 are neither anticipated nor rendered obvious, and it is respectfully submitted that claims 1, 11, and 22 define allowable subject matter. Also, since claims 8, 16-21, and 27-29 depend either directly or indirectly from claims 1, 11, or 22, it is respectfully submitted that claims 8, 16-

21, and 27-29 define allowable subject matter as well. Applicants respectfully request that the rejections of claims 8, 16-21, and 27-29 under 35 U.S.C. 103(a) be removed.

In the current Office action, claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Major, Burns and Doyle as applied to claim 4 above, and further in view of Shannon.
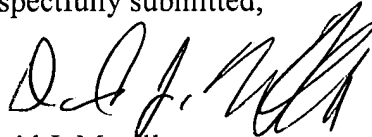
Applicants respectfully traverse the foregoing rejections in view of the above pending claims and for reasons set forth hereafter.

As described above, neither Major, Burns, or Doyle nor the combination thereof teach of suggest the claimed invention of independent claims 1, 11, and 22. Furthermore, the combination of Major, Burns, Doyle, and Shannon do not teach or suggest the claimed invention of independent claims 11, 11, and 22.

Therefore, in view of at least the foregoing, it is respectfully submitted that claims 1, 11, and 22 are neither anticipated nor rendered obvious, and it is respectfully submitted that claims 1, 11, and 22 define allowable subject matter. Also, since claims 6-7 depend either directly or indirectly from claims 1, 11, or 22, it is respectfully submitted that claims 6-7 define allowable subject matter as well. Applicants respectfully request that the rejections of claims 6-7 under 35 U.S.C. 103(a) be removed.

Accordingly, the applicants respectfully requests reconsideration of the rejections based at least on the arguments made above. After such reconsideration, it is urged that allowance of all pending claims will be in order.

Respectfully submitted,

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